

This listing of claims will replace all prior versions, and listings, of claims in the application:

1 Claim 1 (currently amended): A radio receiver comprising:  
2 a gain controlling means for controlling a gain of the radio receiver;  
3 an electric field intensity detecting means for detecting an electric field  
4 intensity of a received signal;  
5 an error rate measuring means for measuring an error rate of the received  
6 signal;  
7 a threshold setting means for setting a threshold of an electric field intensity  
8 level based on the measured error rate of the received signal ~~to start a gain control~~  
9 ~~operation of the gain controlling means in response to a measured result of the error~~  
10 ~~rate measuring means; and~~  
11 a first controlling means for causing the gain controlling means to start the  
12 gain control operation when the electric field intensity detected by the electric field  
13 intensity detecting means reaches the threshold of the electric field intensity level  
14 ~~which starts the gain control operation.~~

Sub B1  
Claim 2 (cancelled).

1 Claim 3 (currently amended): A radio receiver for receiving a signal having a  
2 signal format that is transmitted while changing transmission conditions into two  
3 types or more, comprising:  
4 a gain controlling means for controlling a gain of the radio receiver;  
5 an electric field intensity detecting means for detecting an electric field  
6 intensity of a received signal;  
7 a threshold setting means for setting a threshold of an electric field intensity  
8 level ~~to start a gain control operation of the gain controlling means in response to a~~  
9 based on the transmission condition of the received signal; and  
10 a first controlling means for causing the gain controlling means to start the  
11 gain control operation when the electric field intensity detected by the electric field  
12 intensity detecting means reaches the threshold of the electric field intensity level  
13 ~~which starts the gain control operation.~~

1 Claim 4 (currently amended): A radio receiver for receiving a signal having a  
2 signal format that is transmitted while changing transmission conditions into two  
3 types or more, comprising:

4 a gain controlling means for controlling a gain of the radio receiver;

5 a gain control amount setting means for setting a gain control amount of the  
6 gain controlling means in response to a the transmission condition of the received  
7 signal; and

8 a second controlling means for causing the gain controlling means to change  
9 a gain in response to the gain control amount.

Sub B1  
1 Claim 5 (currently amended): A radio receiver according to any one of claims  
2 1, 2, 3 or 4, wherein the gain controlling means is a step-wise gain control type which  
3 changes the gain by a predetermined amount when a signal level of the received  
4 signal exceeds a predetermined level.

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1 Claim 6 (original) A radio receiver according to any one of claims 1 or 3,  
2 wherein the gain controlling means is a continuous gain control type which changes  
3 the gain in response to a signal level of the received signal.

1 Claim 7 (currently amended): A radio receiver according to claim 1, wherein  
2 the threshold setting means decides a change direction and/or a change amount of  
3 the threshold ~~threshold~~ of the electric intensity level in a succeeding reception  
4 based on a measured result by the error rate measuring means in a present  
5 reception and a measured result by the error rate measuring means in a preceding  
6 reception.

1 Claim 8 (original): A radio receiver according to claim 1, wherein the threshold  
2 setting means decides a change direction and/or a change amount of the threshold  
3 of the electric field intensity level in a succeeding reception based on a measured  
4 result by the error rate measuring means in a present reception, a measured result  
5 by the error rate measuring means in a preceding reception, the threshold of electric  
6 field intensity level set in a present reception, and a set value of the threshold of  
7 electric intensity level in the preceding reception.

1 Claim 9 (original): A radio receiver according to any one of claims 1, 7 or 8,  
2 further comprising:

3 a threshold range setting means for setting an available set range of the  
4 threshold of electric intensity level, which is defined by a maximum value and a  
5 minimum value.

1 Claim 10 (original): A radio receiver according to any one of claims 1, 7 or 8,  
2 wherein the threshold setting means does not change a setting of the threshold of  
3 electric intensity level when the threshold of electric intensity level is more than the  
4 maximum value or is less than the minimum value of the available set range and a  
5 measured result by the error rate measuring means is less than a predetermined  
6 value.

1 Claim 11 (original): A radio receiver according to any one of claims 7 or 8,  
2 further comprising:

3 a storing means for updating/holding the measured result by the error rate  
4 measuring means in the present reception as a measured result by the error rate  
5 measuring means in the preceding reception, updating/holding the threshold of  
6 electric intensity level set in the present reception as the set value of the threshold of  
7 electric intensity level in the preceding reception, and updating/holding the threshold  
8 of electric intensity level set by the threshold setting means in the present reception  
9 as the threshold of electric intensity level set in a succeeding reception.

1 Claim 12 (currently amended): A radio receiver ~~according to claim 2,~~  
2 comprising:

3 a gain controlling means for controlling a gain of the radio receiver;

4 an error rate measuring means for measuring an error rate of the received  
5 signal;

6 a gain control amount setting means for setting a gain control amount of the  
7 gain controlling means in response to the error rate; and

8 a second controlling means for causing the gain controlling means to change  
9 a the gain in response to the gain control amount, wherein

10 the gain control amount setting means decides a change direction and/or a  
11 change amount of the gain control amount in a succeeding reception based on a  
12 measured result by the error rate measuring means in a present reception and a  
13 measured result by the error rate measuring means in a preceding reception.

1 Claim 13 (currently amended): A radio receiver ~~according to claim 2,~~  
2 comprising:

3 a gain controlling means for controlling a gain of the radio receiver;

4 an error rate measuring means for measuring an error rate of the received  
5 signal;

6 a gain control amount setting means for setting a gain control amount of the  
7 gain controlling means in response to the error rate; and

8 a second controlling means for causing the gain controlling means to change  
9 a the gain in response to the gain control amount, wherein

10 the gain control amount setting means decides a change direction and/or a  
11 change amount of the gain control amount in a succeeding reception based on a  
12 measured result by the error rate measuring means in a present reception, a  
13 measured result by the error rate measuring means in a preceding reception, the  
14 gain control amount set in a present reception, and a set value of the gain control  
15 amount in the preceding reception.

1 Claim 14 (currently amended): A radio receiver according to any one of claims  
2 2, 12 or 13, further comprising:

3 a gain control amount range setting means for setting an available set range  
4 of the gain control amount, which is defined by a maximum value and a minimum  
5 value.

1 Claim 15 (currently amended): A radio receiver according to any one of claims  
2 2, 12; or 13, wherein the gain control amount setting means does not change a  
3 setting of the gain control amount when the gain control amount is more than the a  
4 maximum value or is less than the a minimum value of the available set range and a  
5 measured result by the error rate measuring means is less than a predetermined  
6 value.

1 Claim 16 (original): A radio receiver according to any one of claims 12 or 13,  
2 further comprising:

3 a storing means for updating/holding the measured result by the error rate  
4 measuring means in the present reception as a measured result by the error rate  
5 measuring means in the preceding reception, updating/holding the gain control  
6 amount set in the present reception as the set value of the gain control amount in the  
7 preceding reception, and updating/holding the gain control amount set by the gain  
8 control amount setting means in the present reception as the gain control amount set  
9 in a succeeding reception.

Sub B1  
1 Claim 17 (currently amended): A radio receiving method used for a radio  
2 receiver including a gain controlling means for controlling a gain of the radio receiver,  
3 an electric field intensity detecting means for detecting an electric field intensity of a  
4 received signal, and an error rate measuring means for measuring an error rate of  
5 the received signal, comprising:

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6 an error rate measuring step of measuring the error rate in the receiving step  
7 by the error rate measuring means;

8 a threshold setting step of setting a threshold of electric intensity level based  
9 on the measured error rate of the received signal; ~~to start a gain control operation of~~  
10 ~~the gain controlling means in response to a measured result of the error rate~~  
11 ~~measuring means; and~~

12 a first controlling step of causing the gain controlling means to start the gain  
13 control operation when the electric field intensity detected by the electric field  
14 intensity detecting means reaches the threshold of electric intensity level.

1 Claim 18 (currently amended): A radio receiving method according to claim  
2 17, further comprising:

3 a receiving step of performing a reception at the set threshold of the electric  
4 intensity level;

5 ~~an error rate measuring step of measuring the error rate in the receiving step~~  
6 ~~by the error rate measuring means; and~~

7 wherein the threshold setting step decides a change direction and/or a  
8 change amount of the threshold of electric intensity level in a succeeding reception

9 based on a measured result by the error rate measuring means in a present  
10 reception and a measured result by the error rate measuring means in a preceding  
11 reception.

1 Claim 19 (currently amended): A radio receiving method according to claim  
2 17, further comprising:

3 a receiving step of performing a reception at the set threshold of electric  
4 intensity level;

5 ~~an error rate measuring step of measuring the error rate in the receiving step~~  
6 ~~by the error rate measuring means; and~~

7 wherein the threshold setting step decides a change direction and/or a  
8 change amount of the threshold of electric intensity level in a succeeding reception  
9 based on a measured result by the error rate measuring means in a present  
10 reception, a measured result by the error rate measuring means in a preceding  
11 reception, the threshold of electric intensity level set in a present reception, and a set  
12 value of the threshold of electric intensity level in the preceding reception.

1 Claim 20 (original): A radio receiving method according to any one of claims  
2 17, 18 or 19, further comprising:

3 a threshold range setting step of setting an available set range of the  
4 threshold of electric intensity level, which is defined by a maximum value and a  
5 minimum value.

1 Claim 21 (currently amended): A radio receiving method according to any one  
2 of claims 17, 18 or 19, wherein the threshold setting step does not change a setting  
3 of the threshold of electric intensity level when the threshold of electric intensity level  
4 is more than the a maximum value or is less than the a minimum value of the  
5 available set range and a measured result by the error rate measuring means is less  
6 than a predetermined value.

1 Claim 22 (original): A radio receiving method according to any one of claims  
2 18 or 19, further comprising:

3 a storing step of updating/holding the measured result by the error rate  
4 measuring means in the present reception as a measured result by the error rate  
5 measuring means in the preceding reception, updating/holding the threshold of  
6 electric intensity level set in the present reception as the set value of the threshold of  
7 electric intensity level in the preceding reception, and updating/holding the threshold  
8 of electric intensity level set by the threshold setting means in the present reception  
9 as the threshold of electric intensity level set in a succeeding reception.

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Claim 23 (cancelled).

1 Claim 24 (currently amended): A radio receiving method ~~according to claim~~  
2 ~~23, further comprising:~~ used for a radio receiver including a gain controlling means  
3 for controlling a gain of the radio receiver, and an error rate measuring means for  
4 measuring an error rate of the received signal, comprising:

5 a gain control amount setting step of setting a gain control amount of the gain  
6 controlling means in response to a measured result of the error rate measuring  
7 means;

8 a second controlling step of causing the gain controlling means to change a  
9 gain in response to the gain control amount;

10 a receiving step of performing a reception at the set gain control amount; and  
11 an error rate measuring step of measuring the error rate in the receiving step  
12 by the error rate measuring means; and

13 wherein the gain control amount setting step decides a change direction  
14 and/or a change amount of the gain control amount in a succeeding reception based  
15 on a measured result by the error rate measuring means in a present reception and  
16 a measured result by the error rate measuring means in a preceding reception.

1 Claim 25 (currently amended): A radio receiving method ~~according to claim~~  
2 ~~23, further comprising:~~ used for a radio receiver including a gain controlling means  
3 for controlling a gain of the radio receiver, and an error rate measuring means for  
4 measuring an error rate of the received signal, comprising:

5 a gain control amount setting step of setting a gain control amount of the gain  
6 controlling means in response to a measured result of the error rate measuring  
7 means;

8 a second controlling step of causing the gain controlling means to change a  
9 gain in response to the gain control amount;

10 a receiving step of performing a reception at the set gain control amount; and  
11 an error rate measuring step of measuring the error rate in the receiving step  
12 by the error rate measuring means; and

13 wherein the gain control amount setting step decides a change direction  
14 and/or a change amount of the gain control amount in a succeeding reception based  
15 on a measured result by the error rate measuring means in a present reception, a  
16 measured result by the error rate measuring means in a preceding reception, the  
17 gain control amount set in a present reception, and a set value of the gain control  
18 amount in the preceding reception.

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1 Claim 26 (currently amended): A radio receiving method according to any  
2 one of claims 23, 24 or 25, further comprising:

3 a gain control amount range setting step of setting an available set range of  
4 the gain control amount, which is defined by a maximum value and a minimum  
5 value.

1 Claim 27 (currently amended): A radio receiving method according to any  
2 one of claims 23, 24 or 25, wherein the gain control amount setting step does not  
3 change a setting of the gain control amount when the gain control amount is more  
4 than the maximum value or is less than the minimum value of the available set range  
5 and a measured result by the error rate measuring means is less than a  
6 predetermined value.

1 Claim 28 (currently amended): A radio receiving method according to any  
2 one of claims 24, or 25, further comprising:

3 a storing step of updating/holding the measured result by the error rate  
4 measuring means in the present reception as a measured result by the error rate  
5 measuring means in the preceding reception, updating/holding the gain control  
6 amount set in the present reception as the set value of the gain control amount in the  
7 preceding reception, and updating/holding the gain control amount set by the gain  
8 control amount setting means in the present reception as the gain control amount set  
9 in a succeeding reception.



1 Claim 29 (currently amended): A radio receiving method used for a radio  
2 receiver which includes a gain controlling means for controlling a gain of the radio  
3 receiver and an electric field intensity detecting means for detecting an electric field  
4 intensity of a received signal and also receives a signal having a signal format that is  
5 transmitted while changing transmission conditions into two types or more,  
6 comprising:

Sub a 7 a threshold setting step of setting a threshold of an electric intensity level to  
8 start a gain control operation of the gain controlling means in response to ~~a~~ the  
9 transmission condition of the received signal; and

AI 10 a first controlling step of causing the gain controlling means to start the gain  
11 control operation when the electric field intensity detected by the electric field  
12 intensity detecting means reaches the threshold of the electric intensity level.

1 Claim 30 (currently amended): A radio receiving method used for a radio  
2 receiver which includes a gain controlling means for controlling a gain of the radio  
3 receiver and also receives a signal having a signal format that is transmitted while  
4 changing transmission conditions into two types or more, comprising:

5 a gain control amount setting step of setting a gain control amount of the gain  
6 controlling means in response to ~~a~~ the transmission condition of the received signal;  
7 and

8 a second controlling step of causing the gain controlling means to change a  
9 gain in response to the gain control amount.

1 Claim 31 (currently amended): A computer-readable recording medium for  
2 storing a program which causes a computer to execute a radio receiving method set  
3 forth in any one of claims 17, 18, 19, ~~23~~, 24, 25, 29 or 30.